

Wells County Bridge No. 74
On County Road 400 West over Rock Creek Ditch
Approximately 6.5 miles west of Bluffton
Wells County
Indiana

HAER NO. IN-94

HAER
IND
90-BLUFFTON,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Great Lakes System Support Office
1709 Jackson Street
Omaha Nebraska 68102

HISTORIC AMERICAN ENGINEERING RECORD

Wells County Bridge No. 74

HAER NO. IN-94

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Location: On County Road 400 West over Rock Creek
Approximately 6.5 miles west of Bluffton
Wells County
Indiana
UTM: 16.643700.4510220
QUAD: Liberty Center, Indiana

Date of Construction: 1903

Engineer: Indiana Bridge Company

Present Owner: Wells County, Indiana

Present Use: Vehicular Bridge.

Significance: This single span Pratt pony truss bridge is eligible for inclusion on the National Register of Historic Places based on its engineering significance at the local level. The structure is a good example of early 20th metal bridge construction. It was built by the Indiana Bridge Company and highly rated in a survey of Indiana's metal bridges.

Project Information: The bridge is scheduled for replacement, having been inspected and found, generally to be in serious condition. In addition, the bridge is occasionally flooded and does not meet current safety standards. A Memorandum of Agreement was accepted in 1996 by the Advisory Council on Historic Preservation, allowing its removal. The bridge will be offered for 60 days for relocation and reassembly. It was recorded in 1997 by Camille B. Fife and Thomas W. Salmon II of The Westerly Group, Inc., 556 W. 1175 N. Rd., Farmersburg IN 47850.

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Description:

Wells County Bridge No. 74 is located in a rural area of the county, approximately one mile south of State Road 124 in Liberty Township. It spans Rock Creek, which is a well-maintained drainage with steep-sided grassy banks. The bridge is located on 400 West Road, a north-south county artery. It is adjacent to and immediately south of a farmstead, containing a house and several outbuildings, including a gable-roofed barn which is situated on a slight bluff above the creek.

The bridge is 72 feet long with an approximate deck width of 14 feet. The single-span structure contains three chords plus the inclined end posts (a total of five panels.) The four vertical posts are fabricated of two right angle bars joined to form a "T" with flat bar inserted between and used to lace them together. The diagonals within the chords are comprised of pairs of drawn bars. In the center chord, these bars are crossed.

The rectangular beam is a riveted "I" section. The flange is field riveted at the top of the columns. The bridge is pinned throughout with bridge bolts, washers and nuts. The steel beams were evidently produced by the Carnegie mill, as the northeast angle contains the maker's mark in raised letters. The bridge decking is carried by "I" sections and five stringers resting atop these sections. The stirrups are formed by applying two quarter inch plates to the flanges of the vertical column angles and by inserting two eyelidded drawn steel bars between the plates and a staple. All are pinned together with a bridge bolt, washer and nuts.

The steel portal members are brought down to a cast iron shoe, which is bolted to the stone abutment. The inclined end posts are pinned to horizontal bars, the upper chords, which connect the vertical posts. There are latticed guard rails at approximately three feet above the road bed on the inner faces of both sides of the bridge.

The bridge deck is constructed of wood, the first decking, above the stringers is laid perpendicular to the road bed, the second course is parallel to the road bed and overlaid with asphalted gravel. In some places, the road has been worn down to the lower level and the shadows of the perpendicular timbers can be seen from above.

Wells County Bridge No. 74 rests upon two stone abutments, of rough-dressed, coursed, native limestone. Approximately eight courses are visible above ground level. The stone was set with moderately wide mortar joints, many of which have begun to fail. Some evidence of repair

is also visible. The abutments project away from the bridge on the northeast and southwest corners, where slight wingwalls support the structure. Grass has grown atop the abutments on both north and south portals. Below the abutment, as rip-rap to control the wanderings of the stream, are chunks of concrete, possibly remnants of a former decking.

History:

Wells County, in the northeastern section of Indiana, was formed in 1837. The county was, as it is now, an agricultural community. The town of Bluffton is its county seat, located due east of Bridge No. 74. The bridge is located on a secondary road which follows the section lines established by the Federal survey and continued after the establishment of the county. According to local sources, the first road in Liberty Township (within which the bridge is located) was surveyed in 1839.¹ Undoubtedly, development of a complete system of roads was slow, but after a plank road to Fort Wayne (to the north) was constructed, gravel roads and bridges were built throughout the county. The present County Road 400 West, on which the bridge is located is shown on nineteenth century maps, but it was not as important an artery as the north-south road immediately to the east. This road, (known as the Liberty Center Gravel Road and later, old State Road No. 303) led south from a major gravel road (present day S. R. 124 which connects to Bluffton) to the community of Liberty Center. Nineteenth century maps indicate that these roads were improved gravel arteries, however, C. R. 400 West is not so designated. It is probable that it was not improved until late in the century.²

No information was discovered regarding the possible predecessor to Bridge No. 74, at the time of this investigation. Rock Creek was a prominent county drainage, however, even during the nineteenth century. The waterway has obviously been improved over the years, but it is likely that the steep banks were present, to some degree in early years, making a ford somewhat impractical. Therefore it would have been logical to construct a wooden bridge to span the creek, affording access to families living on the rich farmland which surrounded it.

¹ Dell Ford, "A Brief History of Wells County", unpublished MSS, County Courthouse, Bluffton, Wells County.

² Ibid.

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By the turn of the century, Wells County was served by at least two railroads, which ran through Bluffton, the nearby county seat.³ Later, in the early twentieth century traction lines also traversed the county. Bridge No. 74, provided an important improvement in county transportation during the early part of the new century, especially for farmers who sought reliable roads and crossings, to transport their goods to Bluffton for shipment by rail to other major centers in the state and region.

Bids were solicited for the construction of the bridge over Rock Creek on June 10, 1903, through an advertisement placed in the *Bluffton Chronicle*. The bridge to be constructed was described as a 70 foot span iron bridge over Rock Creek in Liberty township near the George Frantz farm.⁴

On June 24th, the County Commissioners, David Ochsenrider, Joseph Stahl and George W. Lechner, met in special session to consider the proposals which had been submitted. The lowest bid was provided by the Indiana Bridge Company, of Muncie, Indiana. They had given two options: the first, for \$3,400 would have used imported stone for the abutments; the second, utilizing native stone, was for only \$2,245 and was selected. The contract was just \$5 lower than the appropriation, according to a local newspaper account. The Indiana Bridge Company was awarded the contract over six other bidders for the project, at least one of which was a local firm known as Miller & Clark.⁵

The Indiana Bridge Company had established an enviable reputation in its home state by 1903. Founded in 1886 by six enterprising men in Muncie, Indiana who purchased the Indianapolis Bridge Company for \$10,500, reorganized it and moved the equipment from the capital city to a new plant at Muncie in northeastern Indiana. The new company also acquired the patent rights to the Godman "leg bridge", so-called because of its distinctive leg-like supports.⁶

³ Ibid.

⁴ "Notice of Bridge Letting, *Bluffton Chronicle*, June 10, 1903.

⁵ "Bridges and Roads, Commissioners Let Contracts on One Bridge and Two Gravel Roads." *Bluffton Evening News*, June 24, 1903.

⁶ *Indiana Bridge, A Hoosier Tradition, Founded 1886*, Muncie, Indiana: Indiana Bridge Co., 1952.

In August of 1887, the stockholders of the company hired two men who would eventually guide the company well into the mid-twentieth century. Charles M. Kimbrough, a local retailer, became the general manager and John R. Marsh, recently graduated from Columbia University was named as engineer. By 1902, Marsh and Kimbrough had purchased stock from the former owners and assumed controlling interest in the company. ⁷

Indiana Bridge Company supplied bridges to many counties in Indiana from its founding, throughout the 1890s. Before 1900 it also sold bridges as far south as Louisiana and Mississippi and west to Texas and Iowa, although most of its sales were in the neighboring states of Ohio, Michigan, Illinois and Kentucky. The company could provide a range of services to meet client needs, from technical advice and engineering design to fabrication and erection of the structure. At the turn of the century the Indiana Bridge Company employed at least five engineers and seven to ten erection crews. Company salesmen and/or county agents were active in many Indiana towns, including Bluffton, Indiana, only a few miles from Bridge No. 74's location. The firm also subcontracted to local contractors who built the substructure, and in some cases, sold metal structures to other bridge companies. ⁸

A number of Pratt structures built by the Indiana Bridge Company have survived nearly a century or more. A few have detailing similar to Bridge No. 74. These structures, according to a Hoosier bridge scholar, have been said to project an image of simplicity, with proper proportions.⁹ Although many Pratt pony bridges have been identified in the state, less than two dozen have been associated with the Indiana Bridge Company, or its predecessor, the Indianapolis Bridge Company, according to a survey conducted in 1987. ¹⁰

The Indiana Bridge Company survived steel strikes and a nationwide financial panic in the 1890s, as well as a local smallpox epidemic. By 1894 they could boast of a monthly payroll for 160 men. That same year, they began to diversify by producing structural members for agricultural,

⁷ Cooper, James L., *Iron Monuments to Distant Posterity*, p. 18

⁸ Ibid., pp. 19-20.

⁹ Ibid., p. 59.

¹⁰ Ibid.

industrial and other buildings. By 1904, the company was so successful that it was able to erect a new plant on the outskirts of Muncie, Indiana.¹¹ As the new century progressed, Indiana Bridge Company's profits were increasingly earned through structural work for industrial, commercial and civic buildings. The company continues to prosper.

The Wells County Bridge has survived for over ninety years because it was well constructed by a company that prided itself on the quality of its bridges and other metal structures. It was supported by sturdy, coursed stone abutments, of simple but efficient design. A specification for stone work, found in the Wells County Commissioners minutes of March, 1903, gives some idea of the requirements which were expected of such abutments. The stone was to be of the best which could be taken from quarries at Bluffton or Markle (a town north of Bluffton, in nearby Huntington County.) The mortar was to be made of one part "good fresh Gasson, German or Buckeye Portland cement to two parts sharp clean sand to be proportioned by measure." The courses were to be of regular thickness with not less than one header for every three stretchers. All stone work was to be started on solid foundations, but at no less a depth than two feet below the bottom of the ditch or stream over which the bridge crossed. The final pointing of the stone work was to be done with a mortar of one part Portland cement to one part sand. ¹²

¹¹ *Indiana Bridge.*

¹² Wells County Commissioners Record, March 3, 1903, p. 157.

Bibliography:

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AREA MAP Wells County Bridge No. 74

